

From glowbugs@theporch.com Wed Dec 18 10:52:58 1996  
Return-Path: <glowbugs@theporch.com>  
Received: from uro (localhost.theporch.com [127.0.0.1])  
by uro.theporch.com (8.8.4/AUX-3.1.1)  
with SMTP id KAA28356;  
Wed, 18 Dec 1996 10:43:09 -0600 (CST)  
Date: Wed, 18 Dec 1996 10:43:09 -0600 (CST)  
Message-Id: <199612181643.KAA28356@uro.theporch.com>  
Errors-To: ws4s@infoave.net  
Reply-To: glowbugs@theporch.com  
Originator: glowbugs@theporch.com  
Sender: glowbugs@theporch.com  
Precedence: bulk  
From: glowbugs@theporch.com  
To: Multiple recipients of list <glowbugs@theporch.com>  
Subject: GLOWBUGS digest 386  
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas  
X-Comment: Please send list server requests to listproc@theporch.com  
Status: 0

#### GLOWBUGS Digest 386

Topics covered in this issue include:

- 1) Re: Motor Start Capacitors  
by Doug <doug@sunrise.alpinet.net>
- 2) 884 Tube  
by EWoodman@aol.com
- 3) RE: Motor Start Capacitors (and Motor Run Capacitors)  
by "Barry L. Ornitz" <u856010@eastman.com>
- 4) Tubes and caps - have questions  
by Dave <gekko95@ix.netcom.com>
- 5) I LOVE this one! Gotta share it  
by Dave <gekko95@ix.netcom.com>

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Date: Tue, 17 Dec 1996 10:05:32 -0700  
From: Doug <doug@sunrise.alpinet.net>  
To: glowbugs@theporch.com  
Subject: Re: Motor Start Capacitors  
Message-ID: <32B6D2DC.2E@alpinet.net>

motor start caps

> try them in filter service!

>

Hi Group...I've been using Motor start caps for years in small projects  
and never had a bump with them. Generally, you can figure the peak

Working voltage by multiplying the brass plate rating by 1.414...and sticking below that number. They are however, designed to take much more, but I don't like running HV parts at maximum rating...it'll come around and bite ya on the backside eventually and when you least need that to happen. Another nice little consideration is that they are non-polarized caps...and even I can't goof one of those up.

One other thought about commercial caps is those little goodies the Power Company calls "Phase balancing Capacitors". They are available in all kinds of sizes and working voltages, are also non-polarized and make very nice HV caps in an amplifier power supply for that "Glowing Rock-crusher" that we all visualize at some point in our radio hobby. Most of the time, these caps are taken off a line that is being upgraded or extended, removing or changing the need to compensate for power factor. So, they end up in the pole yard, set out in the rain and not helping a needy Ham Radio op at all.

Something to consider....have a good time.

Doug, K7YD

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Date: Tue, 17 Dec 1996 15:04:22 -0500  
From: EWoodman@aol.com  
To: glowbugs@theporch.com  
Subject: 884 Tube  
Message-ID: <961217150422\_34603142@emout02.mail.aol.com>

Can anyone tell me what an 884 is? I picked up a bunch of them several years back not knowing what they really were. The only reference I find is in my old 1972 Handbook under the regulator/control tube section. All it says is "gas grid type" or something like that. Base diagram shows it as some sort of triode. Is it good for anything these days?

Thanks,  
Eric Woodman KA1YRV

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Date: Tue, 17 Dec 1996 15:11:13 -0500 (EST)  
From: "Barry L. Ornitz" <u856010@eastman.com>  
To: Glowbugs Mailing List <glowbugs@theporch.com>  
Cc: Shane <toyboat@freenet.edmonton.ab.ca>  
Subject: RE: Motor Start Capacitors (and Motor Run Capacitors)  
Message-ID: <Pine.ULT.3.91.961217141747.7799A-100000@dua150.kpt.emn.com>

On Tue, 17 Dec 1996, Shane Wilcox asked about Motor Start Capacitors:

- > I have access to a local outlet that sells surplus electronics
- > which is mostly of an industrial nature. There are high voltage
- > capacitors which are in the 25 to 50 uF / 350 VAC range.

This is a good place to scrounge parts IF you know what you are buying. Note that Shane is describing two ENTIRELY DIFFERENT types of capacitors here and that they are not interchangeable. Using the wrong one is asking for an accident to happen. Make sure you know which is which.

- > The AC rating is because they are motor-start units. Some are
- > sealed cylindrical metal units, much larger than conventional
- > axial-lead electrolytics of similar value (marked: liquid-filled -
- > No PCBs). The terminals are both at one end, covered with the usual
- > little rubber boot. Would these be oil-filled units? Would they
- > be suitable for use in a simple 300VDC, one-tube cw transmitter power
- > supply? They will fit in my project okay.

These are actually MOTOR\_RUN capacitors. They are used to provide an additional phase for two phase motors. Typically using a paper dielectric soaked in oil (avoid any that are unmarked as they may contain polychlorinated biphenyls), they are designed for continuous duty with AC current passing through them. Some newer versions use a plastic film dielectric instead. They may be known by many terms: motor run capacitors, AC power supply capacitors, snubber capacitors, and commutating capacitors. These are high quality capacitors that work well in power supplies at low frequencies. Do not expect these to work at RF, however. Their DC voltage rating is often considerably higher than their AC rating with many units having dual ratings (typically 440 VAC/1000 VDC).

- > The other units are in a bakelite-like plastic cylinder, closed off at
- > one end, with terminals at the other. These are smaller, for the same
- > value, than the liquid-filled metal units, but still larger than the
- > conventional axial-lead electrolytics of similar value. These are
- > also non-polarized with AC ratings. Are these electrolytic units,
- > with two polarized caps in series-opposing connection inside? If
- > so, are these caps unsuitable for filtering pulsating DC in a power
- > supply, because 1/2 of each unit would be continuously reverse-
- > polarized?

These are special electrolytics and are true MOTOR\_START capacitors. They are rated for very intermittent duty. Their construction is a little more complicated than two conventional electrolytics in series-opposition but this is a convenient way of looking at them. They cannot be used on AC for more than a few seconds (normal operation is to switch them out of a circuit after the motor starts). They are not designed for DC operation and probably are best avoided as the reversed polarized

capacitor can overheat. In fact, ALL non-polarized electrolytic capacitors are designed for intermittent use only or for circuits where the polarity may change occasionally during the life of the capacitor.

[Note: Experienced builders who routinely "reform" old electrolytic capacitors might be successful in reforming one to work adequately on DC. For the inexperienced on this group, it would be best to avoid them completely.]

Another possible source of high voltage electrolytic capacitors are photoflash capacitors. These pack a lot of capacitance into a small volume. This comment is significant in that you do not get anything for free. The small size means that they have a rather limited AC ripple current rating compared to conventional power supply electrolytics. This may not be intuitively obvious since in their intended operation, they discharge into a photoflash tube - a relative DC short circuit. However, this operation is quite intermittent compared to the continuous AC current required in power supply applications. In designing a "husky" DC power supply, the ripple current rating of these capacitors should be considered. However, for the typical 10 to 15 watt, 300 to 400 volt supply needed for a small tube transmitter they should work well. It would be wise to derate them in voltage and be sure and use equalizing resistors across them if they are used in series to obtain a higher voltage rating.

73, Barry L. Ornitz WA4VZQ ornitz@eastman.com

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Date: Tue, 17 Dec 1996 15:58:11 -0800 (PST)  
From: Dave <gekko95@ix.netcom.com>  
To: glowbugs@theporch.com  
Subject: Tubes and caps - have questions  
Message-ID: <199612172358.PAA00304@montana.nwlink.com>

Hi'ya GB'ers,

Can anyone tell me what a UX-210 and a UX-874 are? I was just given one of each from some old amplifier or receiver a friend was throwing out. I have no way to test them, (other than check the filaments - need to do that) but they look pretty decent. Nice and clear with no burn spots.

Second question, I know there has been discussion about big AC motor caps. Well, I have a number of 24uf 330VAC caps. Any practical uses for these? I hate to chuck them out, although they are large and take up precious shelf space in my tiny shop.

If anyone can answer these questions, Radio Shack probably cannot. But the Glowbugs I betcha could!

I'll now patiently wait....

Dave WB7AWK  
Tacoma, WA

NOTE the new email address!

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"Sure it's 1939 technology. But it's GOOD 1939 technology"

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Date: Tue, 17 Dec 1996 20:32:32 -0800  
From: Dave <gekko95@ix.netcom.com>  
To: glowbugs@theporch.com  
Subject: I LOVE this one! Gotta share it  
Message-ID: <199612180432.UAA01380@dfw-ix1.ix.netcom.com>

Conard, in response to my post about UX-874's and such:

<snip>  
Take the 874 into RS and ask them if they can get one for you ...tell 'em it came out of your computer!  
Merry Christmas!  
de Conard ws4s

If only I had the guts! Geeeee that would be hilarious!

Thanks Conard

Dave

Merry Christmas to All!

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End of GLOWBUGS Digest 386  
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